

Project Mitigation for Air Quality Impacts



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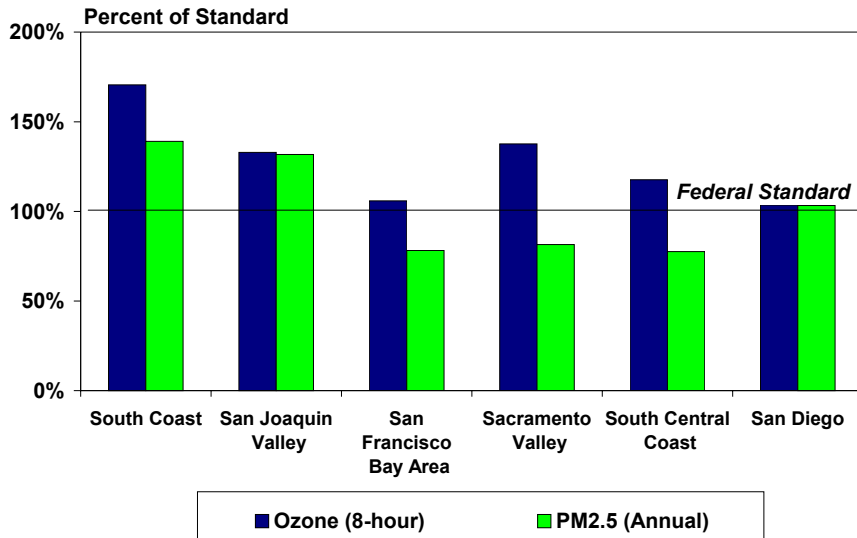
What Are the Health Consequences of Air Pollution Today?

- 6,500 premature deaths / year
- 9,000 hospitalizations / year
- 1.7 million cases respiratory illness / year
- 1.3 million school absences / year
- 2.8 million lost workdays / year

Source: CARB January 2004

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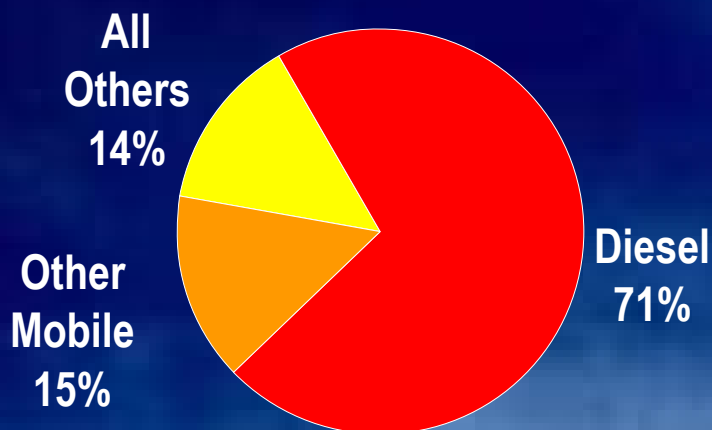
2005 Ozone and PM2.5 Air Quality Data in California



Draft 2007 Ozone and PM2.5 Plans

- South Coast AQMD
Reductions Needed:
 - 70% SO_x; 36% NO_x; 24% VOC by 2014
 - 50-55% VOC and NO_x by 2023
- San Joaquin Valley AQMD
Reductions Needed:
 - 60% VOC and NO_x by 2012

Carcinogens in the Air



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California Counties Having Highest Diesel PM Emissions

County	tons/year
Los Angeles	4490
Orange	1670
San Diego	1527
Fresno	1006
Riverside	996
Alameda	914
Santa Clara	904
San Bernardino	795
San Francisco	764
Kern	749

Source: CARB 2004

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Proximity Matters: *CARB Health Risk Assessments*

- Ports of Los Angeles & Long Beach
 - > 100 in a million: 1,135,000 persons affected
 - > 500 in a million: 53,000 persons affected
- Roseville Railyard
 - > 500 in a million

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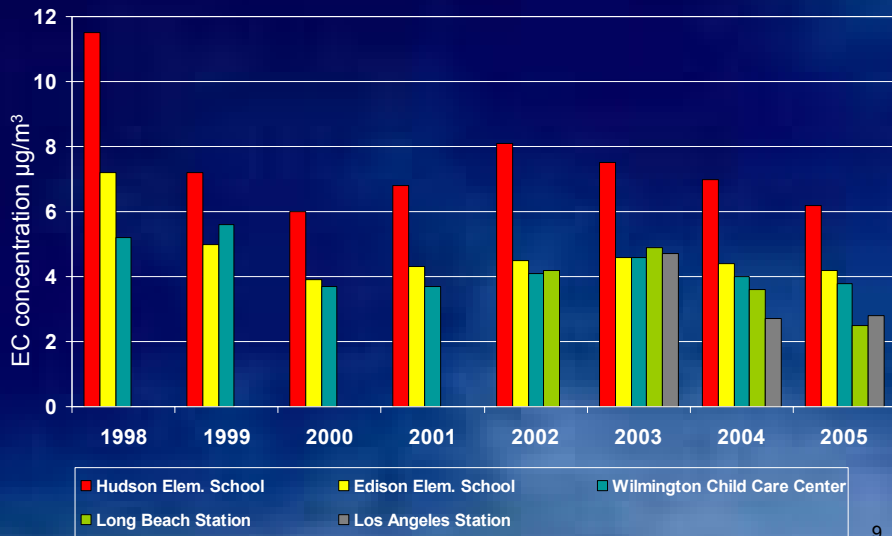
Proximity Matters: *Hudson Elementary School*



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Proximity Matters

Elemental Carbon Monitored at Hudson Elementary and Other Sites



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Mitigation

Main Unresolved Issue:

What does
“simultaneous and continuous
improvement”
really mean at the
community / neighborhood level?

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What is the...

- Certainty/magnitude of mitigation actions;
- Timing of mitigations compared to infrastructure construction;
- Willingness to reject certain projects or approaches;
- Level of commitment to support complementary local or legislative actions;
- Additional source of mitigation funding?

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General Recommendations

- Do not fund or approve any projects without an enforceable mechanism to ensure emissions will be reduced from the subject activity
(e.g., construction equipment, trucks, locomotives, ships, cargo handling)
- Require “Green” Contracting & match \$

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General Recommendations (cont.)

- Prioritize projects with major emission reductions to come first, and adjust construction schedules as appropriate
- Replace some of proposed projects with more environmentally sensitive alternatives
- Support container fee and other state or local proposals / actions

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Some Specific Solutions: Truck Fleet Turnover

- Problem:
 - Slow fleet turnover
 - Expense for individual owners to retrofit/replace
- Solution:
 - Fund truck replacement / retrofit
 - Maximize on-dock rail

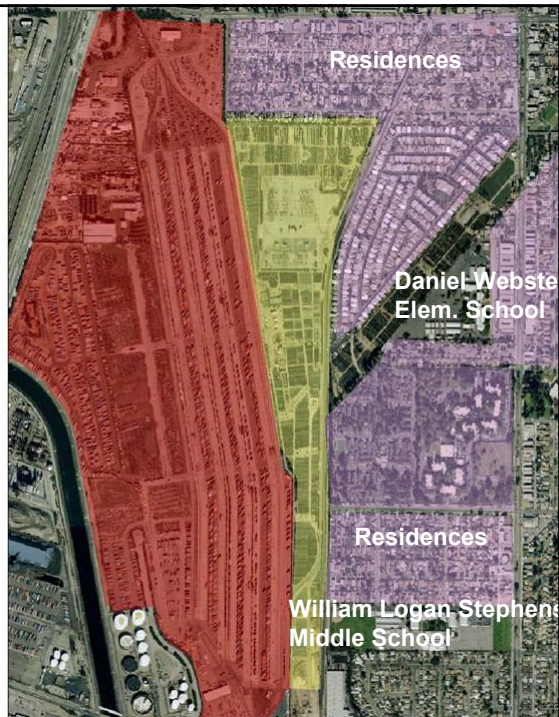
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Some Specific Solutions: Rail Operations

- Problem:
 - Millions of containers, by on-road truck to railyards outside of ports
 - Impacts: truck emissions, congestion, health risk near railyards
- Solutions:
 - Optimize on-dock railyards in lieu of near- & off-dock
 - Consider shipping containers out of region unsorted by destination
 - Don't place new railyards or expansions in heavily impacted areas

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Union Pacific Intermodal Container Transfer Facility (ICTF)



Proposed Site,
Southern
California
International
Gateway
(SCIG)
BNSF Railyard



Villages at Cabrillo – Long Beach

Largest Residential Homeless Veterans Program in U.S.



Services:

- 26-acre former naval facility
- 160-bed transitional housing
- 50-bed job re-entry program
- 20-bed shelter (senior- and handicapped-accessible)
- Transitional school for homeless children

Some Specific Solutions: Locomotive Controls

- Problem:
 - Locomotive emissions standards set by federal government
 - Not as stringent as needed, or as technology allows
 - Future regulations speculative
- Solutions:
 - Require implementation of emission controls / ULSD fuel as condition of public infrastructure funding
 - Require funding match
 - Consider partial electrification of system

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Some Specific Solutions: Marine Vessels

- Problem:
 - Largest SO_x source
- Solution:
 - Use only 1% sulfur fuel in main and auxiliary engines after 2010

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Some Specific Solutions: Construction Equipment

- Problem:
 - Short-term use of equipment
 - Construction equipment can be rented
- Solution:
 - Fund or green contracting for engine re-powering/replacement, and add-on control equipment
 - Maximize use of emulsified diesel and lower-emitting alternative fuels
 - Encourage fleet turnover – newest, cleanest rental fleets

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